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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,839	07/25/2003	Ji-hyun In	Q76648	9261
23373 7590 10/09/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER BRADLEY, MATTHEW A	
			ART UNIT 2187	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/626,839	Applicant(s) IN ET AL.	
	Examiner Matthew Bradley	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 July 2007 has been entered.

Claim Status

Claims 1-10 remain pending and are ready for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by Ban (U.S. 5,404,485), hereinafter referred to as Ban.

As per independent claim **1**, Ban teach,

- if changing of data of a data block recorded at an original address in a data area is requested, (Column 5 lines 46-52) *The Examiner notes that a write operation as taught by Ban anticipates the changing of data of a data block in that the write operation will change the data.*

- recording the data block having changed data in an alternative area (Column 5 lines 42-47 both areas as shown on the same memory in Figure 2 and further taught in Column 4 lines 11-31)
- and recording mapping information of the data block recorded in the alternative area in a mapping area; (Column 5 lines 47-50)
- and if changing of data of the data block recorded in the alternative area is requested, recording a data block having changed data at the original address in the data area and (Column 6 lines 9-27) *The Examiner notes that Ban teach a transfer unit. When the block is updated, the system of Ban selects a block that is labeled as the transfer unit that becomes the new location of the block with the updated data. The old block that the data came from is erased and marked as the transfer unit. Additional writes to the updated data block will be written back to the transfer unit thus anticipating the instant limitation.*
- deleting the mapping information of the data block recorded in the alternative area from the mapping area (Column 5 lines 47-50). *The Examiner notes that when the mapping information is changed, to show the new block location of the data, the old mapping information pointing to the alternative area will be deleted as it is overwritten.*

As per dependent claim 2, Ban teach, wherein the mapping information is a logical block number of the data block (Column 5 lines 50-52).

As per dependent claim 3, Ban teach, wherein if the changed data of the data block are recorded in the alternative area, the changed data are recorded in a temporary block of the alternative area (Column 6 lines 9-27). *The system of Ban writes to a transfer unit block. Any additional writes to the block will cause the system of Ban to write to a different block, the original address, thus the writing of the data to the transfer unit block is temporary.*

As per dependent claim 4, Ban teach, wherein if the changed data of the data block are recorded in the data area, the changed data are recorded in a location of the data area corresponding to a logical block number of the data block (Column 5 lines 50-52).

As per independent claim 5, Ban teach,

- receiving a data block write request in the flash memory; searching mapping information on the data block to be requested to write in the mapping area; if there is no mapping information on the data block to be requested to write, writing the data block to be requested to write in the alternative area and recording the mapping information on the data block in the mapping area; and if there is mapping information on the data block to be requested to write, writing the data block to be requested to write in the original address of the data area and deleting the mapping information on the data block to be requested to write from the mapping area (Column 5 line 42 to Column 6 line 27). *The Examiner incorporates by reference herein the comments made supra with respect to claim 1.*

As per independent claim 6, Ban teach,

- receiving a data block read request in the flash memory; searching mapping information on the data block to be requested to read in the mapping area; if there is no mapping information on the data block to be requested to read, reading the data block to be requested to read from the original address of the data area; and if there is mapping information on the data block to be requested to read, reading the data block to be requested to read from the alternative area (Column 5 lines 18-35 and Column 6 lines 9-27). *The Examiner incorporates by reference herein the comments made supra with respect to claim 1.*

As per independent claim 7, Ban teach,

- a data area having an original address in which changed data of a data block are recorded when changing of data of a data block recorded in an alternative area is requested; (Column 5 lines 46-52) *The Examiner notes that a write operation as taught by Ban anticipates the changing of data of a data block in that the write operation will change the data.*
- the alternative area in which the changed data of the data block are recorded when changing of data of the data block recorded in the original address of the data area is requested; and (Column 6 lines 9-27) *The Examiner notes that Ban teach a transfer unit. When the block is updated, the system of Ban selects a block that is labeled as the transfer unit that becomes the new location of the block with the updated data. The old*

block that the data came from is erased and marked as the transfer unit.

Additional writes to the updated data block will be written back to the transfer unit thus anticipating the instant limitation.

- a mapping area in which a mapping table containing mapping information of the data block recorded in the alternative area is recorded and from which the mapping information of the data block is removed when the changed data of the data block are recorded in the original address of the data area (Column 5 lines 47-50).

As per dependent claim 8, Ban teach, further comprising a master block containing information on the data area, the alternative area, and the mapping area (Column 2 lines 57-60).

As per dependent claim 9, Ban teach, wherein a physical block number of the data block existing in the data area corresponds to a logical block number on a one-to-one basis (Column 2 lines 20-30).

Response to Arguments

Applicant's arguments filed 13 June 2007 have been carefully and fully considered but they are not persuasive.

With respect to applicant's argument located within the fourth paragraph of the first page of the instant remarks (numbered as page 9) which recites:

"In Ban, however, an active unit and a transfer unit do not constitute two separate areas which are arranged on a memory."

The Examiner respectfully disagrees. The Examiner wishes to note that this is not completely commensurate in scope with the claim language. Insofar as it appears to be clear, there appears to be no positive recitation requiring such separation. Conversely, the term "therein" is recited, straying away from any such requirement of separation.

With respect to applicant's argument located within the fourth paragraph of the first page of the instant remarks (numbered as page 9) which recites:

"The position of the transfer unit is not an original address of the data area."

The Examiner respectfully disagrees. The Examiner wishes to note that in Ban, Column 6 lines 9-27 that the original data area or active unit, is written to the alternative area or transfer unit. The original data area or active unit is then erased and marked as the alternative area or transfer unit. Thus subsequent updates to the now active unit, previously the transfer unit, would be written to the original data area as it has been demarcated as the transfer unit, this process is further shown in Figure 7.

With respect to applicant's argument located within the last paragraph of the first page of the instant remarks (numbered as page 9) and continuing through to the second paragraph of the second page of the instant remarks (numbered as page 10) which recites:

"Additionally, in the present invention, when changed data exists in the data area, since the changed data always exists at the original address in the data area, there is no need to maintain mapping information. Accordingly, in the present invention, when changed data exists in the data area, the mapping information is deleted."

In the Ban reference, however, since there is no concept of an "original" address of the data area, and the address at which updated data is recorded is always

different, the mapping information always has to be maintained where the update is located..”

The Examiner respectfully disagrees. Ban teaches “a concept of an ‘original’ address” in that the original address is the active unit before updates are made. As argued above by the Examiner, as the active unit is updated to a transfer unit, the active unit is erased and marked as the transfer unit for subsequent updates. Thus when the new active unit is updated, it will be written to the new transfer unit that was previously demarcated the active unit or original address.

Allowable Subject Matter

Claim **10** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2187

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BRP/mb

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Brian R. Peugh
Primary Examiner
10/1/07